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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,895	06/08/2007	Carl R. Towns	29610/CDT498	3448

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EXAMINER	
CROUSE, BRETT ALAN	

ART UNIT	PAPER NUMBER
1786	

NOTIFICATION DATE	DELIVERY MODE
06/15/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mgbdocket@marshallip.com

Office Action Summary	Application No.	Applicant(s)	
	10/578,895	TOWNS ET AL.	
	Examiner	Art Unit	
	BRETT A. CROUSE	1786	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) *5-42* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Application Status

1. This office action is in response to the amendment, filed 8 April 2011.

2. Claims 1-4 are under consideration.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

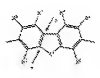
> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al., US 2003/0168656, with further evidence provided by Kreuder et al., US 6,329,082.

Kobayashi teaches:

As to claims 1, 2, 3:

Paragraphs [0006]-[0007], formula 1, teach a polymer comprising a repeating unit of formula 1, shown below.



Paragraph [0009], teach groups for A^1 of formula (1). The groups include  .

Paragraphs [0010]-[0012], teach the substituents of R of formula (1). The substituents include alkyl, alkoxy, aryl and heteroaryl groups.

Paragraphs [0013]-[0038], teach substituents for R^1, R^2, R^3, R^4, R^5 and R^6 of formula (1). The substituents include fluorine and fluorinated alkyl and aryl groups recited in paragraphs [0015], [0016] and [0022] respectively opposite the teaching of preferred electron withdrawing groups of page 6, lines 1-2, of the instant specification.

Paragraph [0045], provides exemplified repeat units of formula (1). Exemplified groups for R include aryl, alkyl, alkoxy and heteroaromatic groups. Exemplified groups at the 3 and 6 positions of the dibenzosilole ring include fluorine, alkyl, alkoxy and heteroaromatic groups.

As to claim 4:

Paragraph [0050], formula 7, teaches the polymer comprising the repeat unit of formula (1) can be a co-polymer. Formula (7) is reproduced below.

Paragraph [0051], teaches Ar^6 of formula (7) can be an aryl or heteroaromatic group, which can be further substituted.

Paragraphs [0054] and [0062], provide examples of aryl and heteroaromatic groups for Ar^6 of formula (7).

Kreuder as further evidence:

Kreuder is added as further evidence that Kobayashi contains an enabled disclosure.

Column 22, lines 31-41, teach bis(bibenzyl-2,2'-diyl) silane which is brominated in solution by treatment with with N-bromosuccinimide. The brominated compound was isolated prior to further reaction. Bis(bibenzyl-2,2'-diyl) silane is shown below.

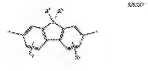
5. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al., US 2004/0062930, with further evidence provided by Kreuder et al., US 6,329,082.

Roberts teaches:

As to claims 1, 2, 3:

Paragraphs [0007]-[0010], formulae I, II and III, teach an electroactive polymer of formula I.

Paragraph [0065], teaches exemplified groups for Ar^1 of formula I. The group can be a dibenzosilole group, shown below.



Paragraph [0065], additionally describes the substituents represented by R^3 include hydrogen, alkyl, aryl, and heteroaryl. Paragraph [0065], also further teaches R^y can be fluoro, fluoroalkyl, perfluoroalkyl, alkyl, aryl and heteroaryl.

As to claim 4:

Paragraphs [0080]-[0089], formulae VI, VII, VIII, teach the electroactive polymer of formula I can be a co-polymer. Paragraphs [0083] and [0087] provide exemplified co-polymeric groups for Ar^3 and Ar^4 of formulae VI, VII and VIII.

Kreuder as further evidence:

Kreuder is added as further evidence that Roberts contains an enabled disclosure.

Column 20, lines 43-52, example 1, teach the preparation of 2,2'-dilithiobiphenyl as a precursor to forming a dibenzosilole derivative.

Column 22, lines 7-30, example 6, teach the introduction of Si atoms to form a dibenzosilole derivative.

Column 22, lines 31-41, example 7, teach bis(bibenzyl-2,2'-diyl) silane which is brominated in solution by treatment with with N-bromosuccinimide. The brominated compound was isolated prior to further reaction. Bis(bibenzyl-2,2'-diyl) silane is shown below.

Response to Arguments

6. Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues opposite the rejection over Kobayashi that Kobayashi does not enable one of ordinary skill in the art to make and use dibenzosilole polymers within the scope of the instant claims. Applicant submits a declaration in support of the argument. The declaration asserts that the reaction scheme proposed by Kobayashi cannot be used to produce a dihalo-substituted dibenzosilole monomer having substituents within the scope of the instant claims.

Kobayashi provides an example in which a dibenzosilole compound which has 3,6-dialkoxy substituents is brominated with N-bromosuccinimide in paragraph [0269], example 10. Kobayashi asserts the method can be used for dibenzosilole compounds having the substituents as contemplated by applicant.

MPEP 2101.01 (I):

> It is possible to make a 35 U.S.C. 102 rejection even if the reference does not itself teach one of ordinary skill how to practice the invention, i.e., how to make or use the article disclosed. If the reference teaches every claimed element of the article, secondary evidence, such as other patents or publications, can be cited to show public possession of the method of making and/or using. *In re Donohue*, 766 F.2d at 533, 226 USPQ at 621.

Kreuder has been added to the rejection over Kobayashi to provide a showing that the public was in possession of the method of making dihalo-substituted dibenzosilole compounds having the substituents as contemplated by applicant. The reference also teaches that the method taught by Kobayashi would successfully result in the production of dihalo-substituted

dibenzosilole compounds having the substituents as contemplated by applicant as taught by Kobayashi. Thus, Kobayashi provides an enabling disclosure to one of ordinary skill in the art.

Applicant argues opposite the rejection over Roberts that Roberts does not enable one of ordinary skill in the art to make and use dibenzosilole polymers within the scope of the instant claims. Applicant submits a declaration in support of the argument. The declaration asserts that the reaction scheme proposed by Roberts does not enable one of ordinary skill in the art to introduce Si atoms into compounds of Roberts in order to synthesize the dibenzosilole compounds / polymers of formulae XXXIV and LIV of Roberts.

MPEP 2101.01 (I):

> It is possible to make a 35 U.S.C. 102 rejection even if the reference does not itself teach one of ordinary skill how to practice the invention, i.e., how to make or use the article disclosed. If the reference teaches every claimed element of the article, secondary evidence, such as other patents or publications, can be cited to show public possession of the method of making and/or using. *In re Donohue*, 766 F.2d at 533, 226 USPQ at 621.

Kreuder has been added to the rejection over Roberts to provide a showing that the public was in possession of the method of making dihalo-substituted dibenzosilole compounds having the substituents as contemplated by applicant.

Additionally, Roberts teaches the polymerization of the monomers by means of the Suzuki coupling in paragraph [0110].

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is (571)-272-6494. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer A. Chriss can be reached on (571)-272-7783. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. A. C./
Examiner, Art Unit 1786

/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 1798